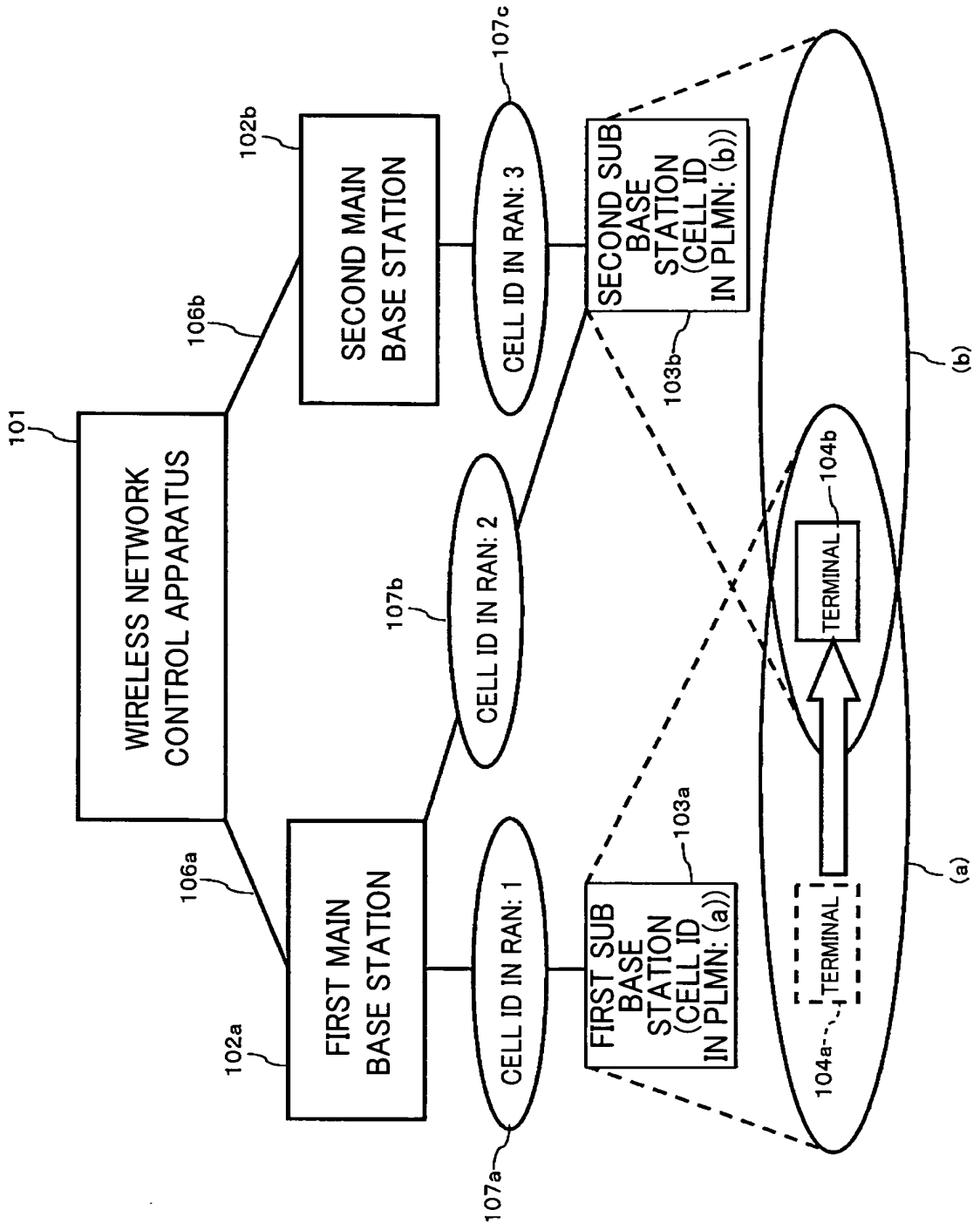
WIRELESS NETWORK CONTROL APPARATUS
101
FIRST MAIN BASE STATION
102a
SECOND MAIN BASE STATION
102b
106a
106b
CELL ID IN RAN: 1
CELL ID IN RAN: 2
CELL ID IN RAN: 3
107a
107b
107c
FIRST SUB BASE STATION (CELL ID IN PLMN: (a))
SECOND SUB BASE STATION (CELL ID IN PLMN: (b))
103a
103b
TERMINAL
TERMINAL
104a
104b
(a)
(b)

FIG. 1

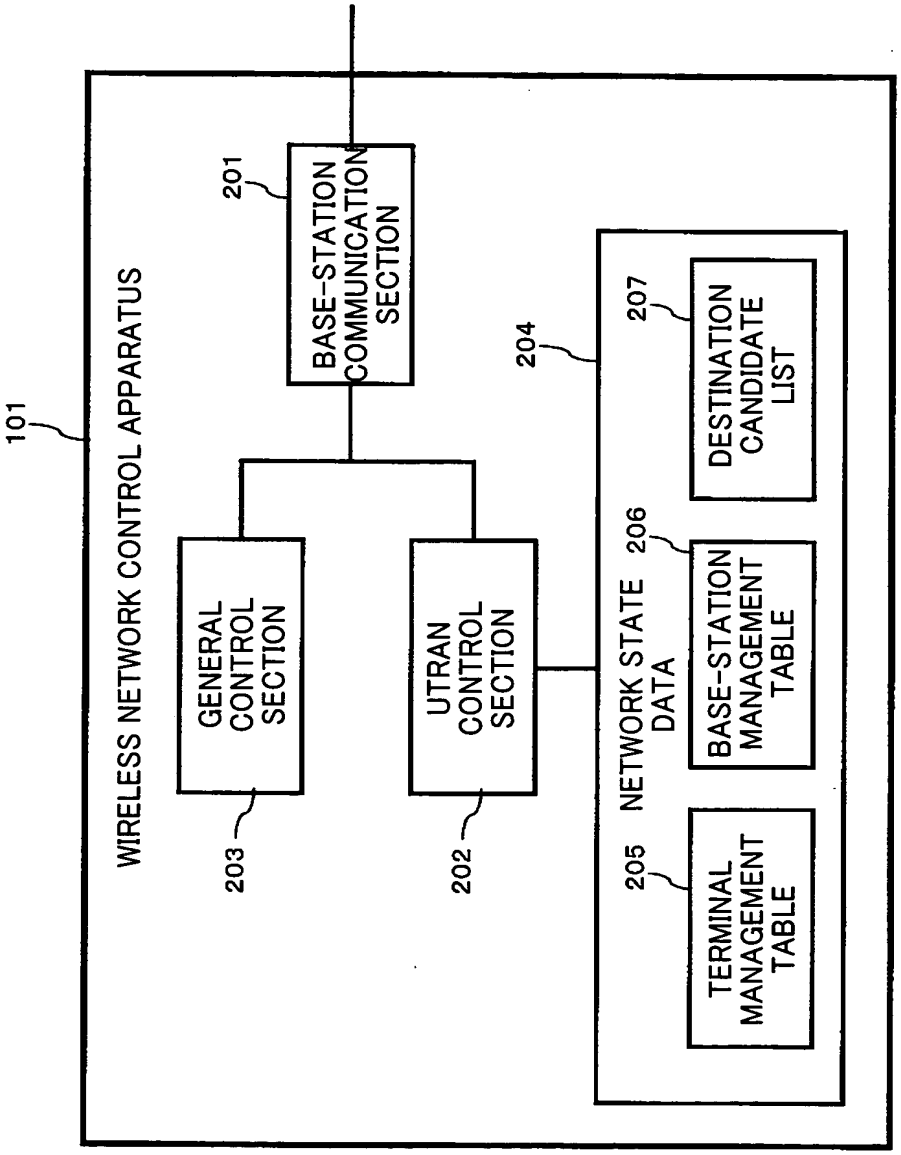
101
WIRELESS NETWORK CONTROL APPARATUS
201
BASE-STATION COMMUNICATION SECTION
GENERAL CONTROL SECTION
203
UTRAN CONTROL SECTION
202
204
NETWORK STATE DATA
205
TERMINAL MANAGEMENT TABLE
206
BASE-STATION MANAGEMENT TABLE
207
DESTINATION CANDIDATE LIST

FIG. 2

206

BASE STATION MANAGEMENT TABLE		
CELL ID IN PLMN	(a)	(b)
CELL ID IN RAN UNDER MANAGEMENT OF FIRST MAIN BASE STATION	1(default)	2
CELL ID IN RAN UNDER MANAGEMENT OF SECOND MAIN BASE STATION	NO CONNECTION	3(default)
SCRAMBLING CODE	s1	s2

FIG. 3

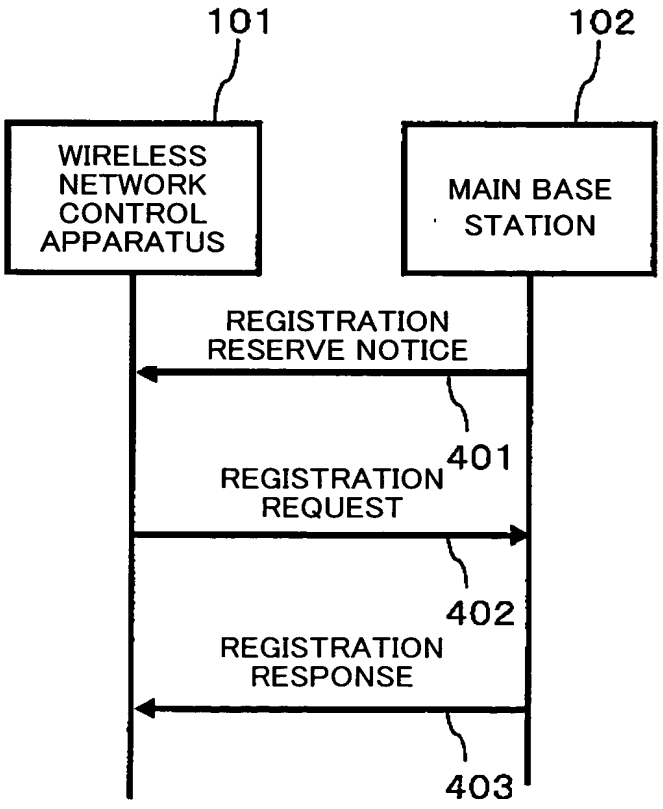

FIG. 4

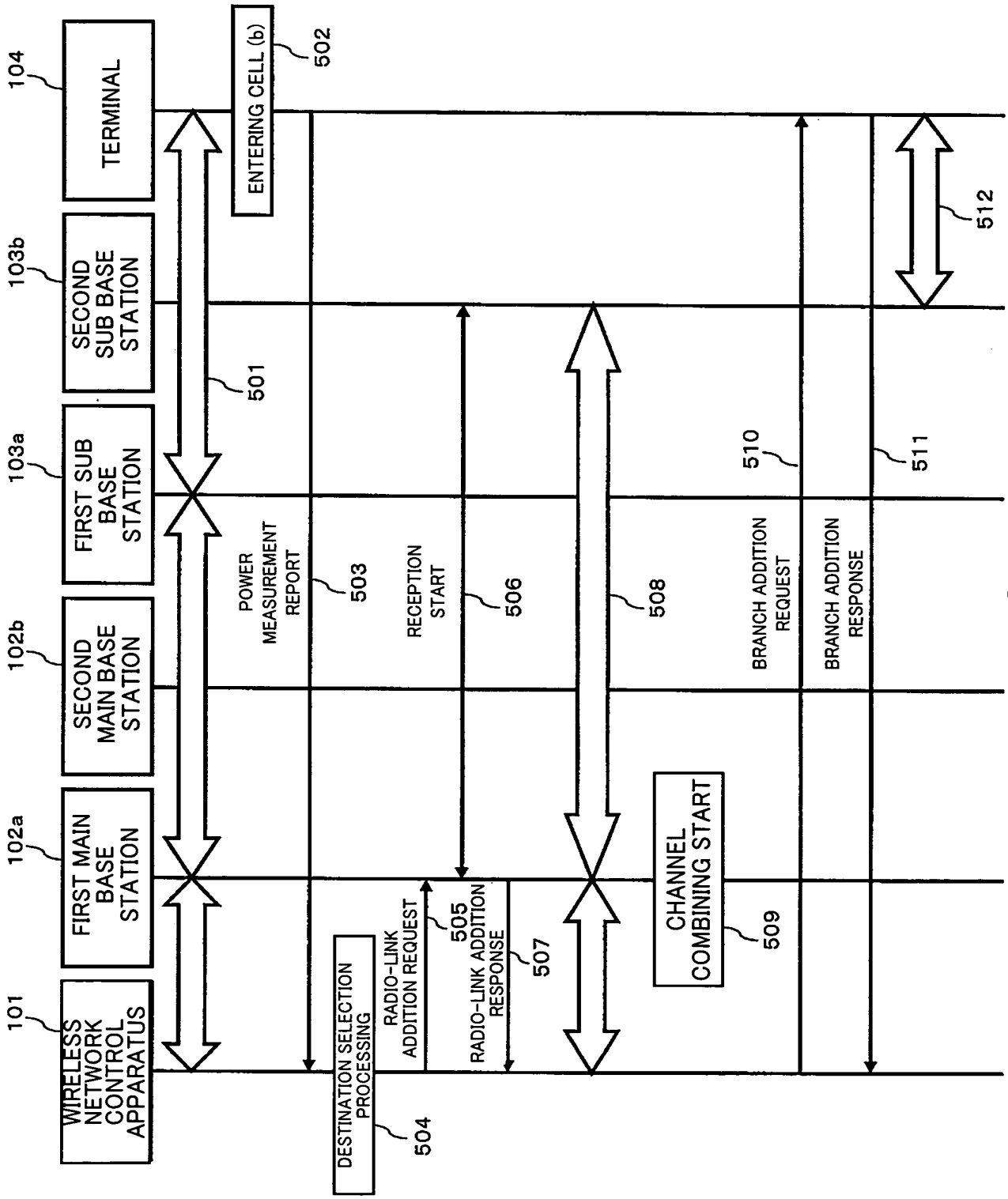
101
WIRELESS NETWORK CONTROL APPARATUS
102a
FIRST MAIN BASE STATION
102b
SECOND MAIN BASE STATION
103a
FIRST SUB BASE STATION
103b
SECOND SUB BASE STATION
104
TERMINAL
ENTERING CELL (b)
502
501
POWER MEASUREMENT REPORT
503
DESTINATION SELECTION PROCESSING
504
RADIO-LINK ADDITION REQUEST
505
RECEPTION START
506
RADIO-LINK ADDITION RESPONSE
507
508
CHANNEL COMBINING START
509
510
BRANCH ADDITION REQUEST
511
BRANCH ADDITION RESPONSE
512

FIG. 5

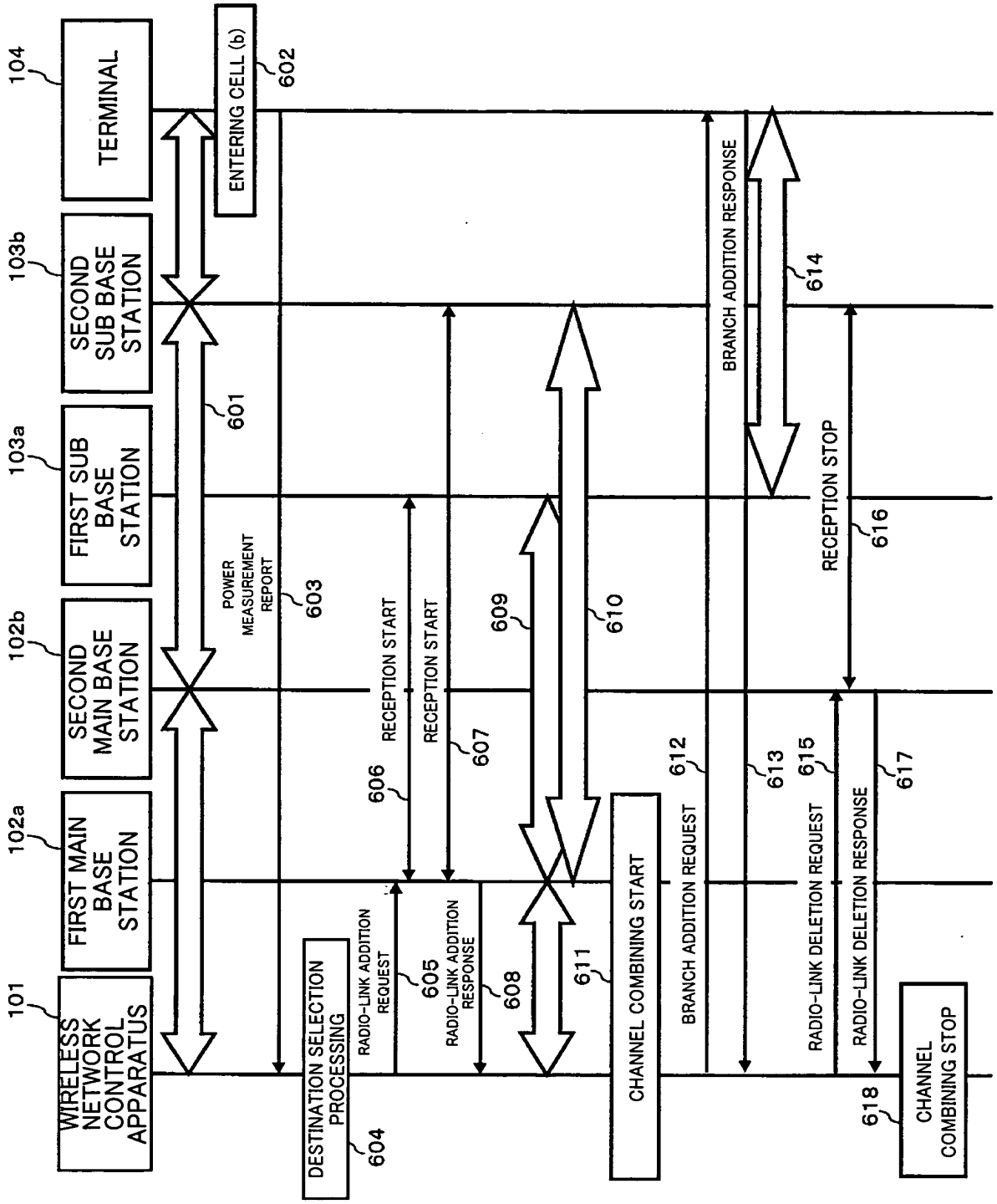
101
WIRELESS NETWORK CONTROL APPARATUS
102a
FIRST MAIN BASE STATION
102b
SECOND MAIN BASE STATION
103a
FIRST SUB BASE STATION
103b
SECOND SUB BASE STATION
104
TERMINAL
ENTERING CELL (b)
602
601
POWER MEASUREMENT REPORT
603
DESTINATION SELECTION PROCESSING
604
RADIO-LINK ADDITION REQUEST
605
RADIO-LINK ADDITION RESPONSE
608
606
RECEPTION START
607
RECEPTION START
609
610
611
CHANNEL COMBINING START
612
BRANCH ADDITION REQUEST
613
BRANCH ADDITION RESPONSE
614
RECEPTION STOP
616
RADIO-LINK DELETION REQUEST
615
RADIO-LINK DELETION RESPONSE
617
618
CHANNEL COMBINING STOP

FIG. 6

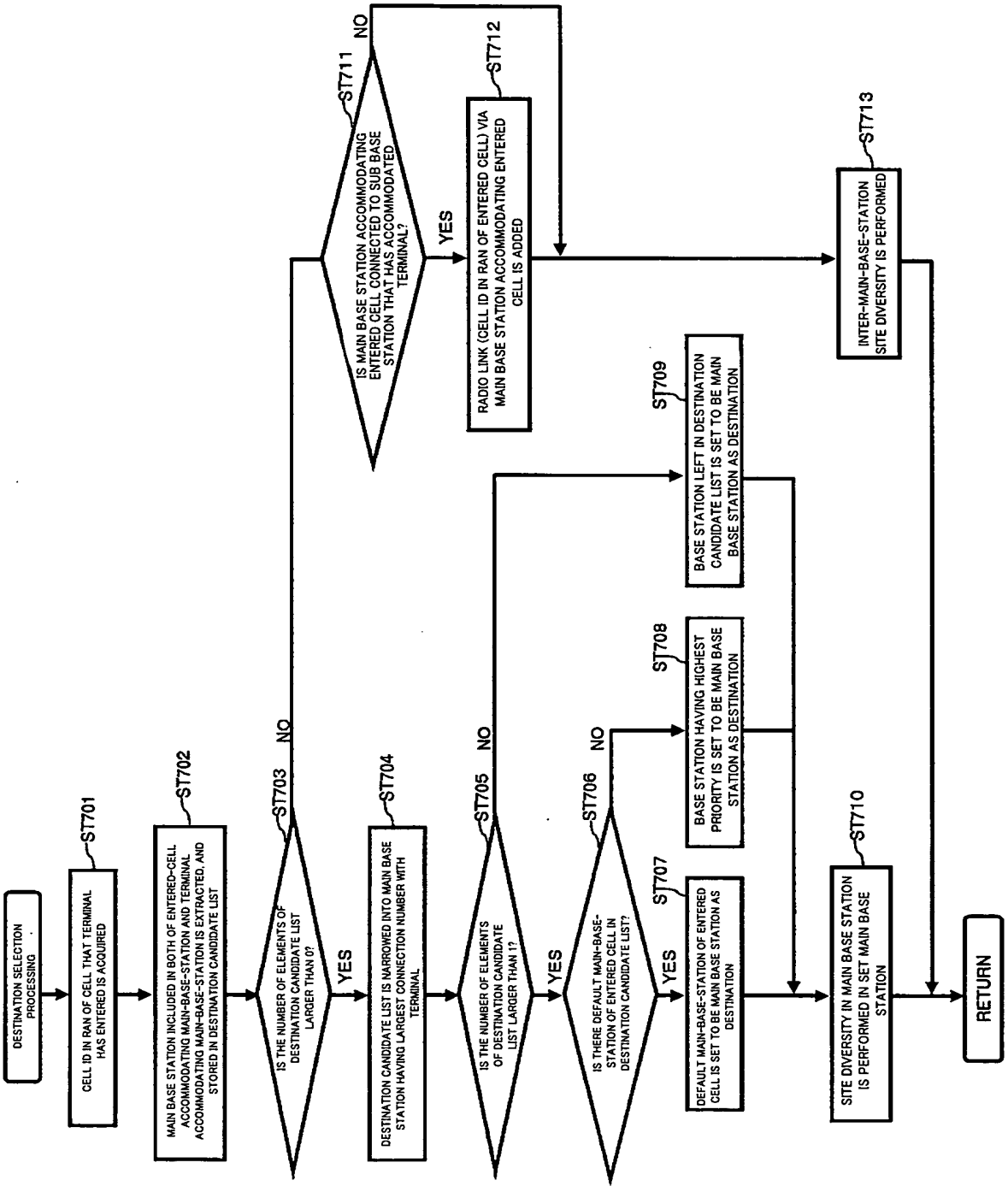
DESTINATION SELECTION PROCESSING
ST701
CELL ID IN RAN OF CELL THAT TERMINAL HAS ENTERED IS ACQUIRED
ST702
MAIN BASE STATION INCLUDED IN BOTH OF ENTERED-CELL ACCOMMODATING MAIN-BASE-STATION AND TERMINAL ACCOMMODATING MAIN-BASE-STATION IS EXTRACTED, AND STORED IN DESTINATION CANDIDATE LIST
ST703
IS THE NUMBER OF ELEMENTS OF DESTINATION CANDIDATE LIST LARGER THAN 0?
NO
YES
ST704
DESTINATION CANDIDATE LIST IS NARROWED INTO MAIN BASE STATION HAVING LARGEST CONNECTION NUMBER WITH TERMINAL
ST705
IS THE NUMBER OF ELEMENTS OF DESTINATION CANDIDATE LIST LARGER THAN 1?
NO
YES
ST706
IS THERE DEFAULT MAIN-BASE-STATION OF ENTERED CELL IN DESTINATION CANDIDATE LIST?
NO
YES
ST707
DEFAULT MAIN-BASE-STATION OF ENTERED CELL IS SET TO BE MAIN BASE STATION AS DESTINATION
ST708
BASE STATION HAVING HIGHEST PRIORITY IS SET TO BE MAIN BASE STATION AS DESTINATION
ST709
BASE STATION LEFT IN DESTINATION CANDIDATE LIST IS SET TO BE MAIN BASE STATION AS DESTINATION
ST710
SITE DIVERSITY IN MAIN BASE STATION IS PERFORMED IN SET MAIN BASE STATION
ST711
IS MAIN BASE STATION ACCOMMODATING ENTERED CELL CONNECTED TO SUB BASE STATION THAT HAS ACCOMMODATED TERMINAL?
NO
YES
ST712
RADIO LINK (CELL ID IN RAN OF ENTERED CELL) VIA MAIN BASE STATION ACCOMMODATING ENTERED CELL IS ADDED
ST713
INTER-MAIN-BASE-STATION SITE DIVERSITY IS PERFORMED
RETURN

FIG. 7

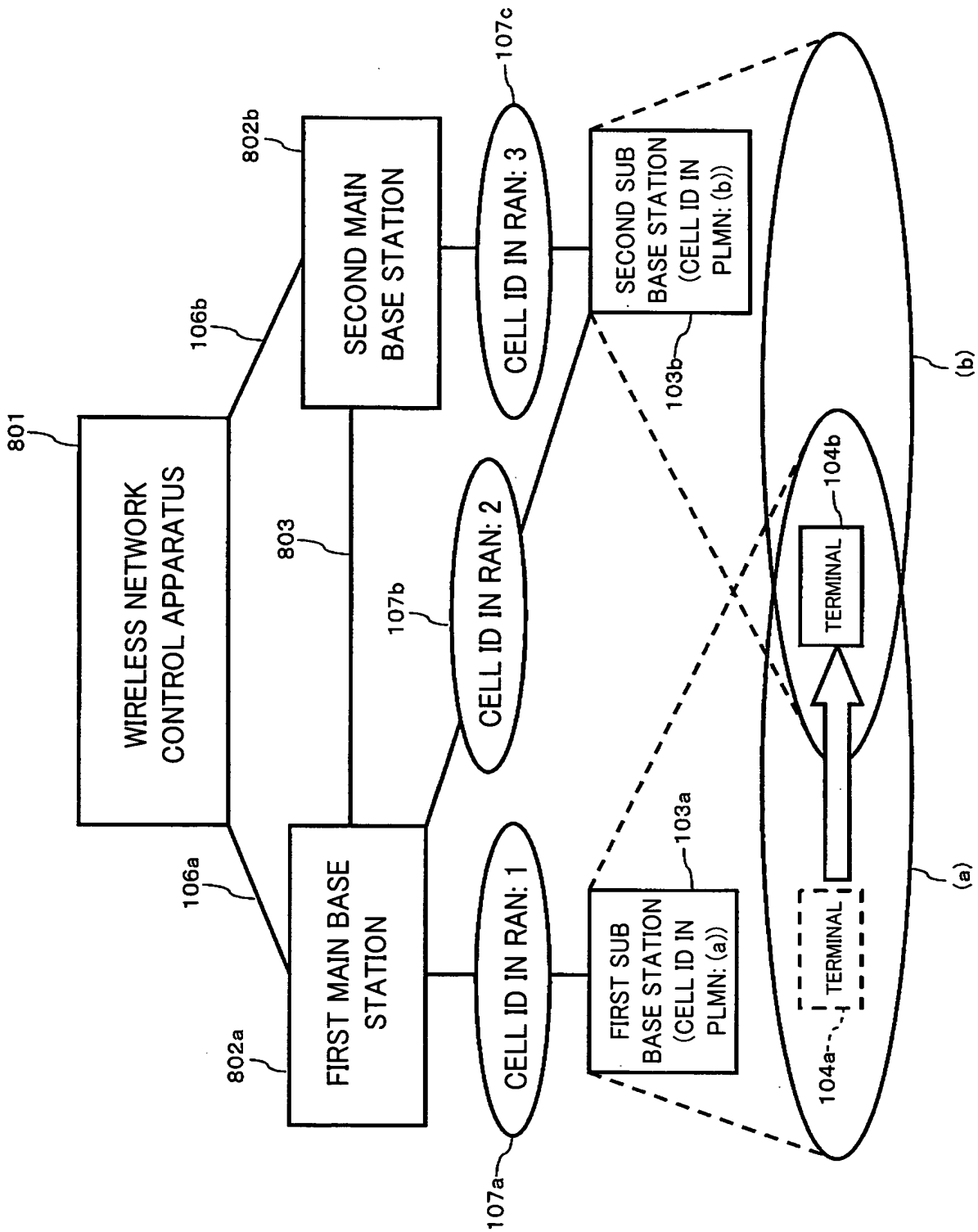
WIRELESS NETWORK CONTROL APPARATUS
801
FIRST MAIN BASE STATION
802a
SECOND MAIN BASE STATION
802b
803
106a
106b
CELL ID IN RAN: 1
CELL ID IN RAN: 2
CELL ID IN RAN: 3
107a
107b
107c
FIRST SUB BASE STATION (CELL ID IN PLMN: (a))
SECOND SUB BASE STATION (CELL ID IN PLMN: (b))
103a
103b
TERMINAL
TERMINAL
104a
104b
(a)
(b)

FIG. 8

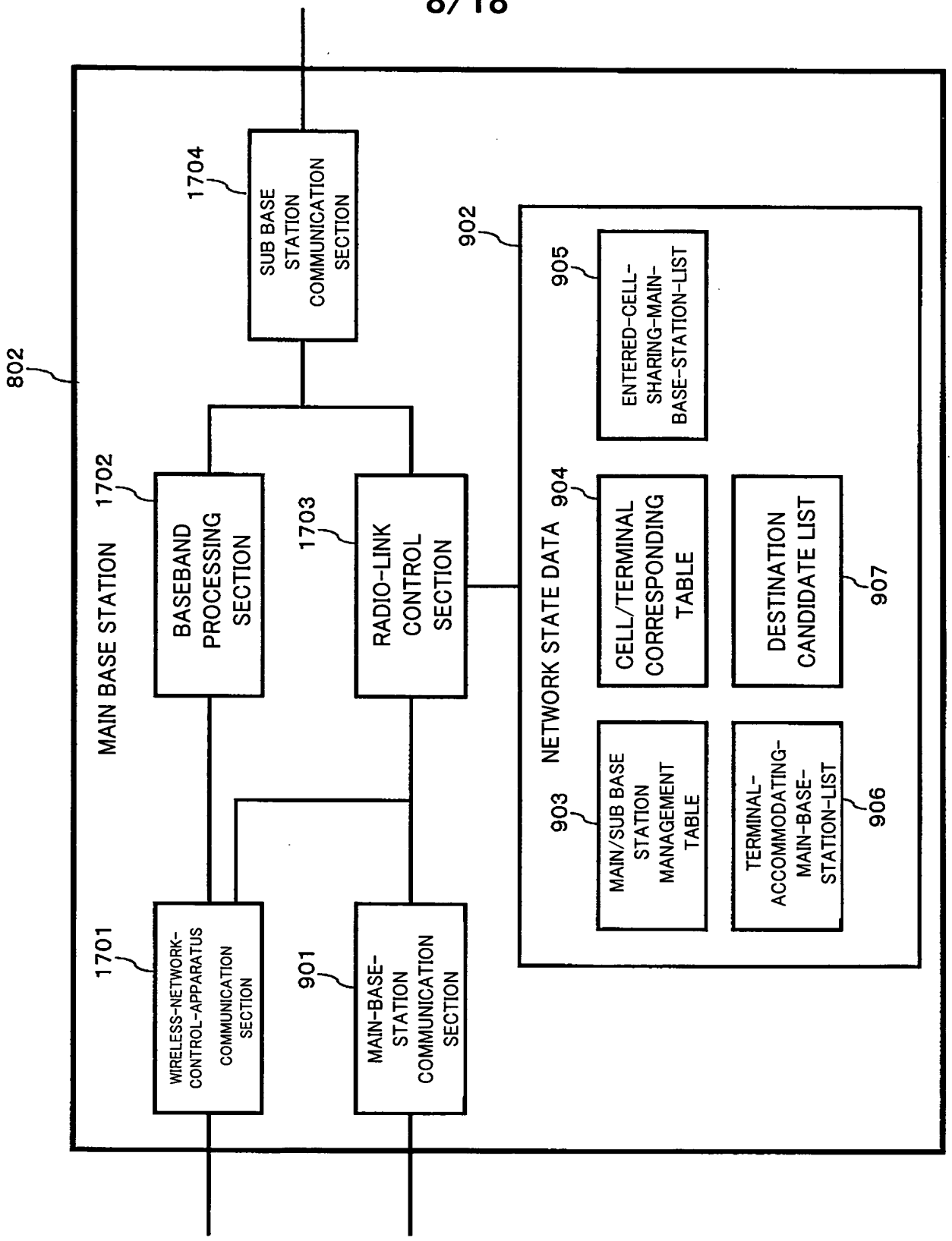
802
MAIN BASE STATION
1704
SUB BASE STATION COMMUNICATION SECTION
902
905
ENTERED-CELL-SHARING-MAIN-BASE-STATION-LIST
1702
BASEBAND PROCESSING SECTION
1703
RADIO-LINK CONTROL SECTION
NETWORK STATE DATA
904
CELL/TERMINAL CORRESPONDING TABLE
DESTINATION CANDIDATE LIST
907
903
MAIN/SUB BASE STATION MANAGEMENT TABLE
TERMINAL-ACCOMMODATING-MAIN-BASE-STATION-LIST
906
1701
WIRELESS-NETWORK-CONTROL-APPARATUS COMMUNICATION SECTION
901
MAIN-BASE-STATION COMMUNICATION SECTION

FIG. 9

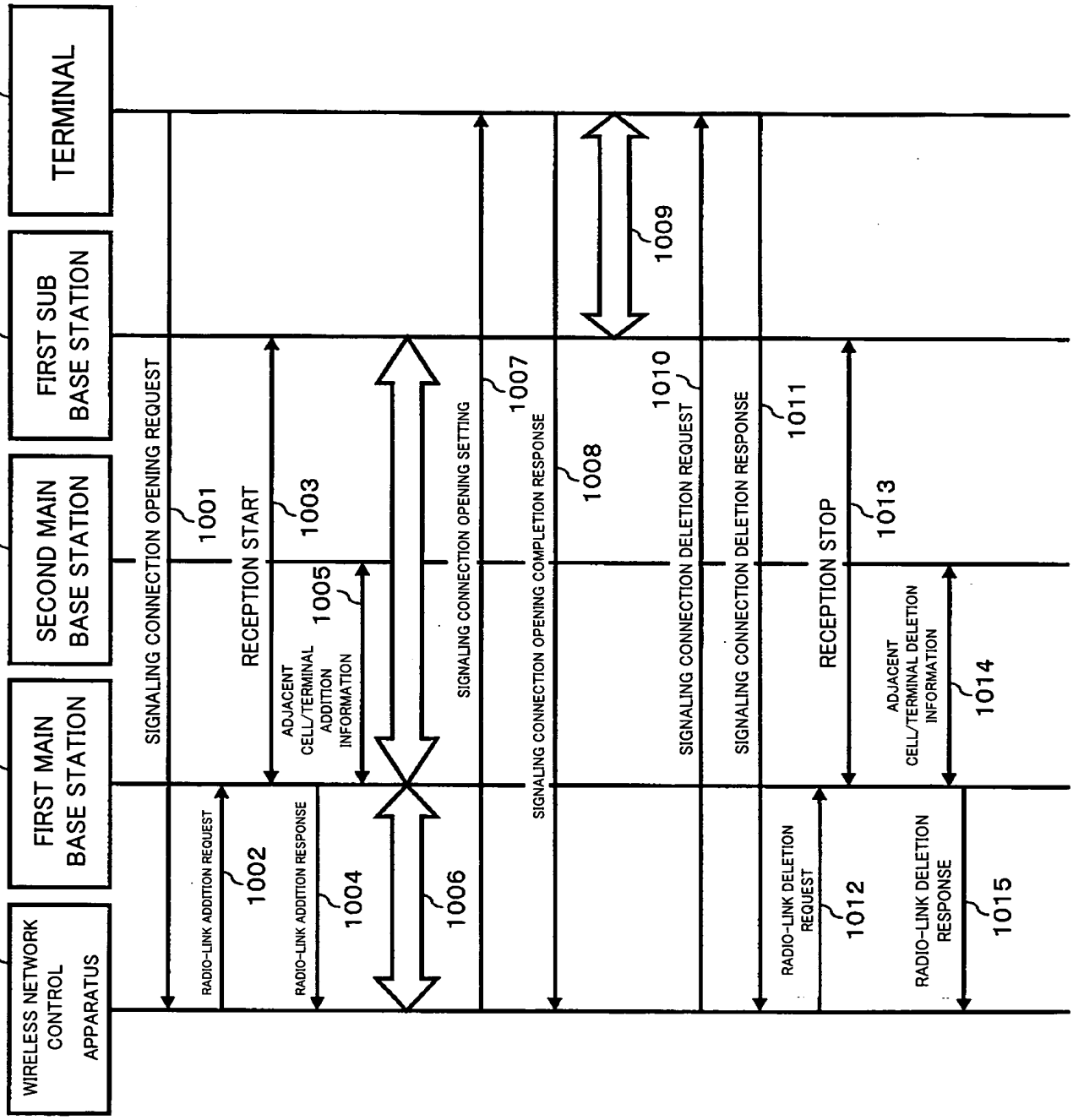
801
WIRELESS NETWORK CONTROL APPARATUS
802a
FIRST MAIN BASE STATION
802b
SECOND MAIN BASE STATION
103a
FIRST SUB BASE STATION
104a
TERMINAL
SIGNALING CONNECTION OPENING REQUEST
1001
RADIO-LINK ADDITION REQUEST
1002
RECEPTION START
1003
ADJACENT CELL/TERMINAL ADDITION INFORMATION
1005
RADIO-LINK ADDITION RESPONSE
1004
1006
SIGNALING CONNECTION OPENING SETTING
1007
SIGNALING CONNECTION OPENING COMPLETION RESPONSE
1008
1009
SIGNALING CONNECTION DELETION REQUEST
1010
SIGNALING CONNECTION DELETION RESPONSE
1011
RADIO-LINK DELETION REQUEST
1012
RECEPTION STOP
1013
ADJACENT CELL/TERMINAL DELETION INFORMATION
1014
RADIO-LINK DELETION RESPONSE
1015

FIG. 10

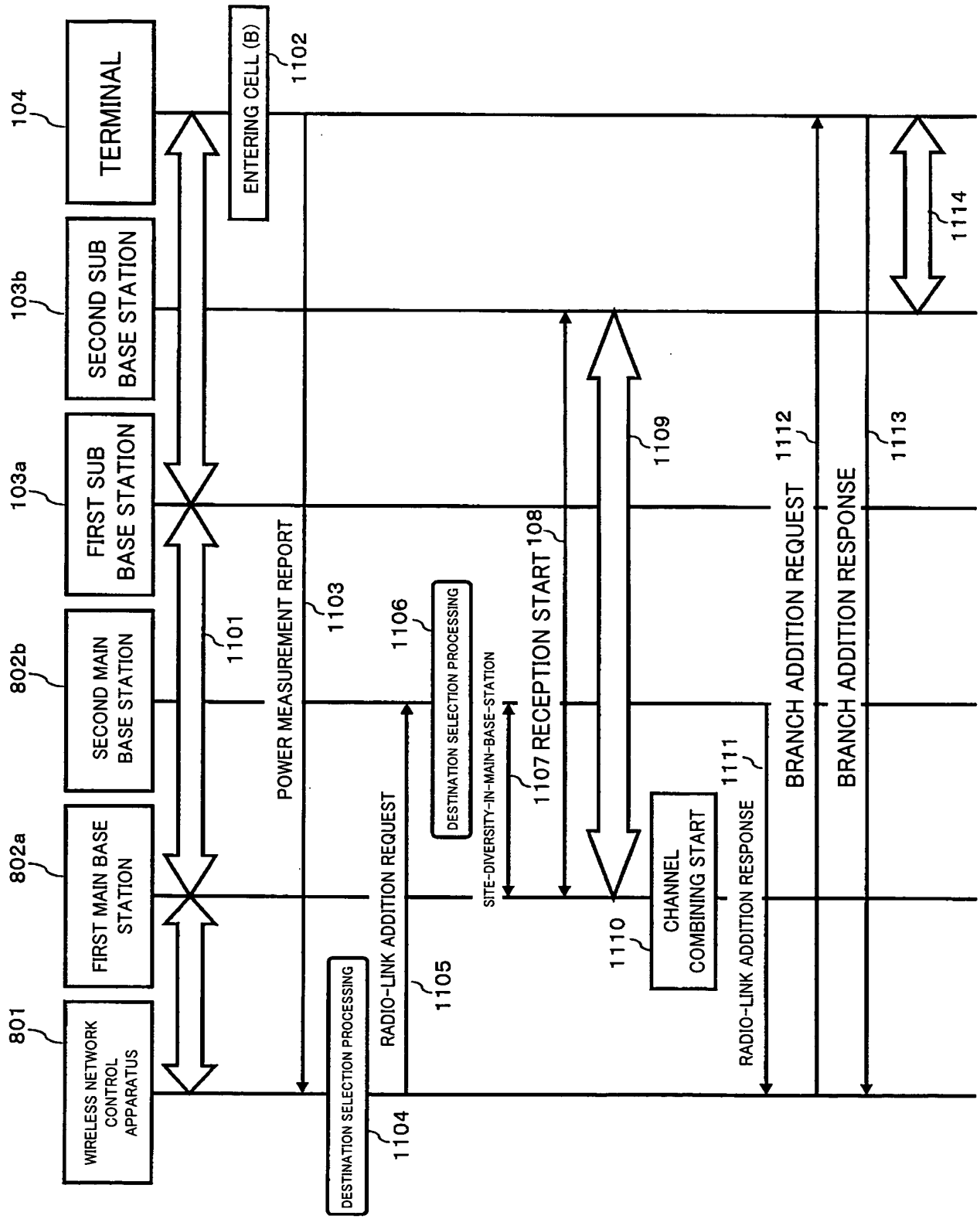
801
WIRELESS NETWORK CONTROL APPARATUS
802a
FIRST MAIN BASE STATION
802b
SECOND MAIN BASE STATION
103a
FIRST SUB BASE STATION
103b
SECOND SUB BASE STATION
104
TERMINAL
ENTERING CELL (B)
1102
1101
POWER MEASUREMENT REPORT
1103
DESTINATION SELECTION PROCESSING
1104
RADIO-LINK ADDITION REQUEST
1105
1106
DESTINATION SELECTION PROCESSING
SITE-DIVERSITY-IN-MAIN-BASE-STATION
1107 RECEPTION START
108
1109
1110
CHANNEL COMBINING START
1111
RADIO-LINK ADDITION RESPONSE
1112
BRANCH ADDITION REQUEST
1113
BRANCH ADDITION RESPONSE
1114

FIG. 11

903

MAIN/SUB-BASE-STATION CORRESPONDING TABLE		
CELL ID IN RAN UNDER MANAGEMENT OF SECOND MAIN BASE STATION	3	OUT OF MANAGEMENT
CELL ID IN RAN UNDER MANAGEMENT OF FIRST MAIN BASE STATION	2	1

FIG. 12

904

CELL/TERMINAL CORRESPONDING TABLE		
Channelization Code	c1	c2
CELL ID IN RAN	3	2

FIG. 13

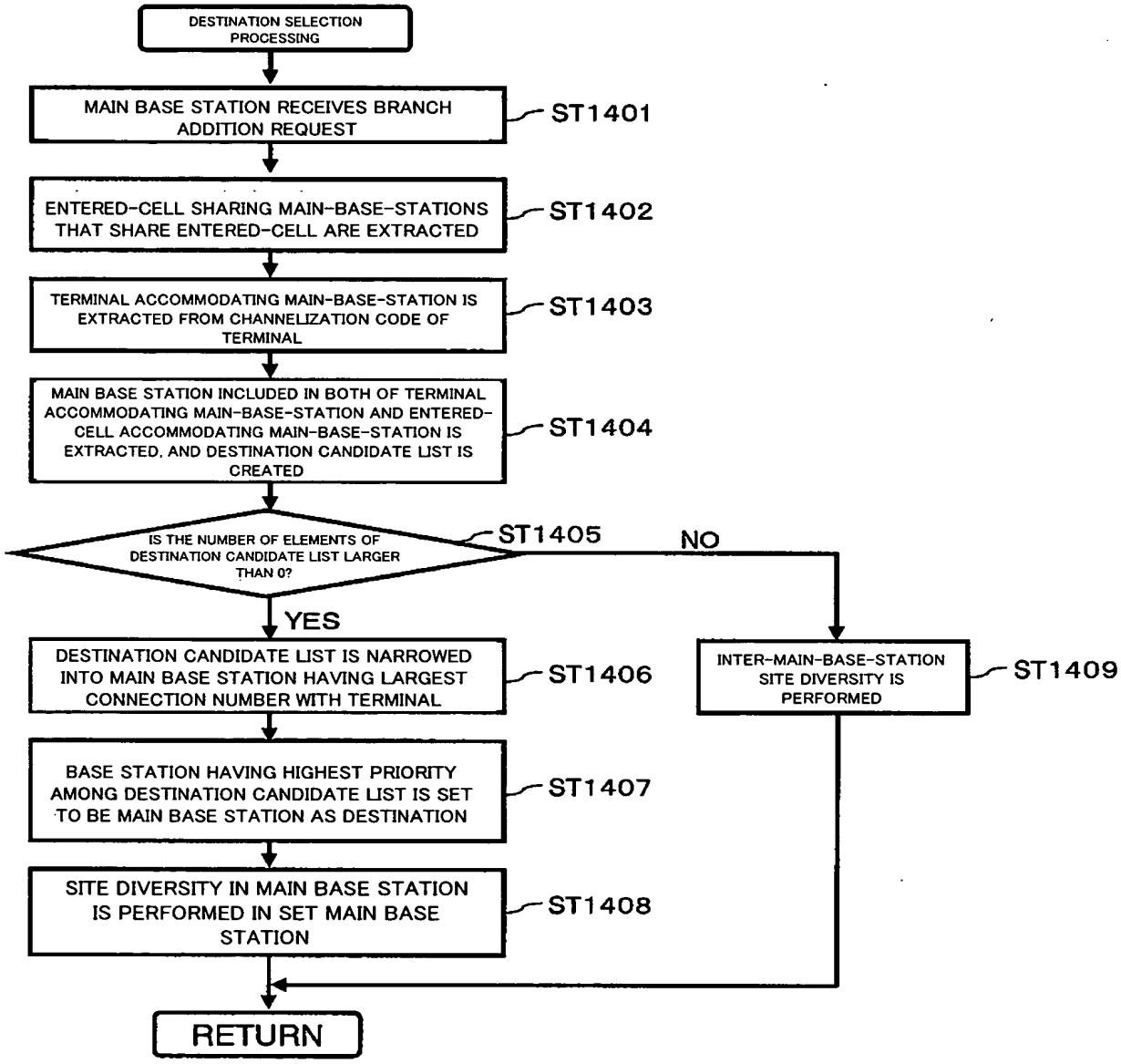
DESTINATION SELECTION PROCESSING
MAIN BASE STATION RECEIVES BRANCH ADDITION REQUEST
ST1401
ENTERED-CELL SHARING MAIN-BASE-STATIONS THAT SHARE ENTERED-CELL ARE EXTRACTED
ST1402
TERMINAL ACCOMMODATING MAIN-BASE-STATION IS EXTRACTED FROM CHANNELIZATION CODE OF TERMINAL
ST1403
MAIN BASE STATION INCLUDED IN BOTH OF TERMINAL ACCOMMODATING MAIN-BASE-STATION AND ENTERED-CELL ACCOMMODATING MAIN-BASE-STATION IS EXTRACTED, AND DESTINATION CANDIDATE LIST IS CREATED
ST1404
IS THE NUMBER OF ELEMENTS OF DESTINATION CANDIDATE LIST LARGER THAN 0?
ST1405
NO
YES
DESTINATION CANDIDATE LIST IS NARROWED INTO MAIN BASE STATION HAVING LARGEST CONNECTION NUMBER WITH TERMINAL
ST1406
INTER-MAIN-BASE-STATION SITE DIVERSITY IS PERFORMED
ST1409
BASE STATION HAVING HIGHEST PRIORITY AMONG DESTINATION CANDIDATE LIST IS SET TO BE MAIN BASE STATION AS DESTINATION
ST1407
SITE DIVERSITY IN MAIN BASE STATION IS PERFORMED IN SET MAIN BASE STATION
ST1408
RETURN

FIG. 14

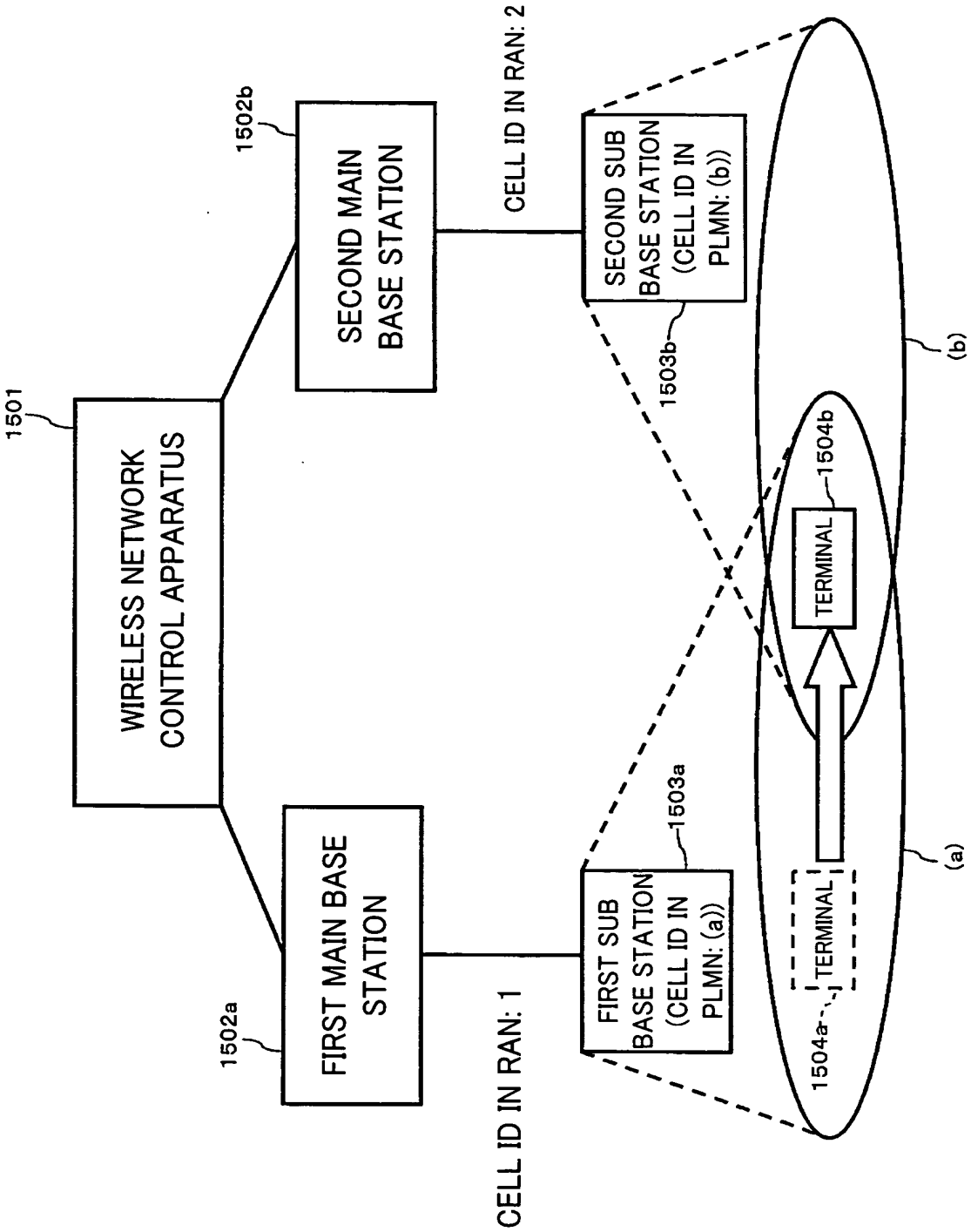
1501
WIRELESS NETWORK CONTROL APPARATUS
1502a
FIRST MAIN BASE STATION
CELL ID IN RAN: 1
1502b
SECOND MAIN BASE STATION
CELL ID IN RAN: 2
FIRST SUB BASE STATION (CELL ID IN PLMN: (a))
1503a
SECOND SUB BASE STATION (CELL ID IN PLMN: (b))
1503b
TERMINAL
1504a
1504b
(a)
(b)

FIG. 15

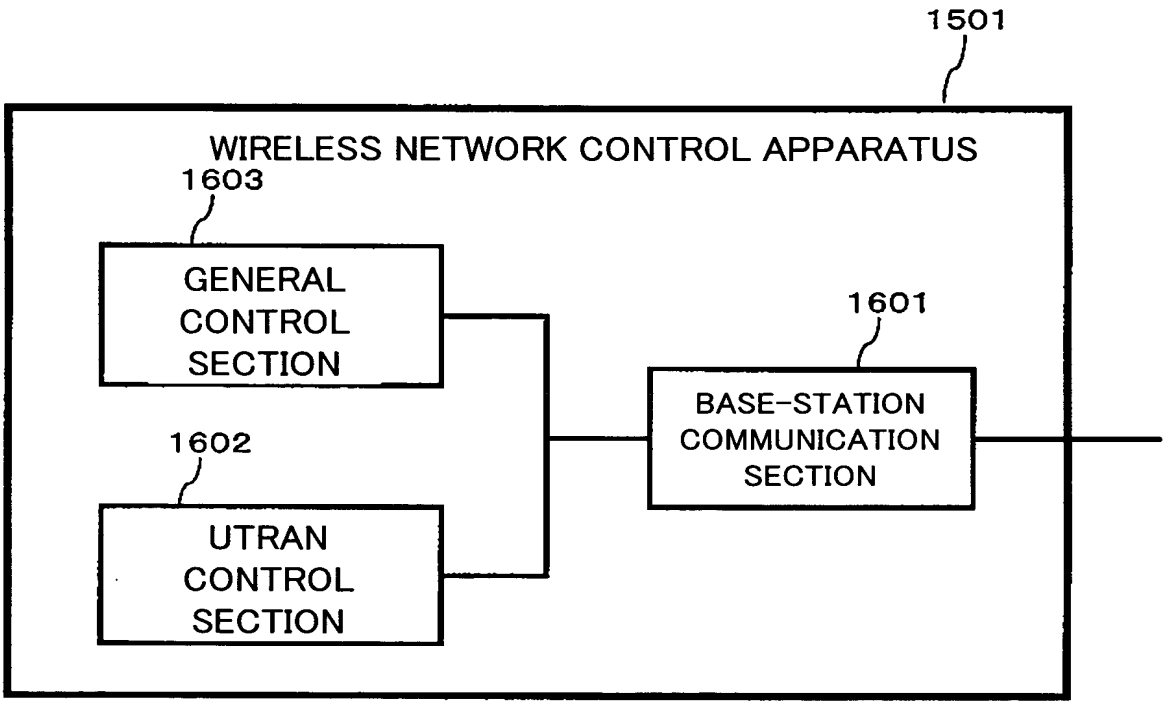
1501
WIRELESS NETWORK CONTROL APPARATUS
1603
GENERAL CONTROL SECTION
1601
BASE-STATION COMMUNICATION SECTION
1602
UTRAN CONTROL SECTION

FIG. 16

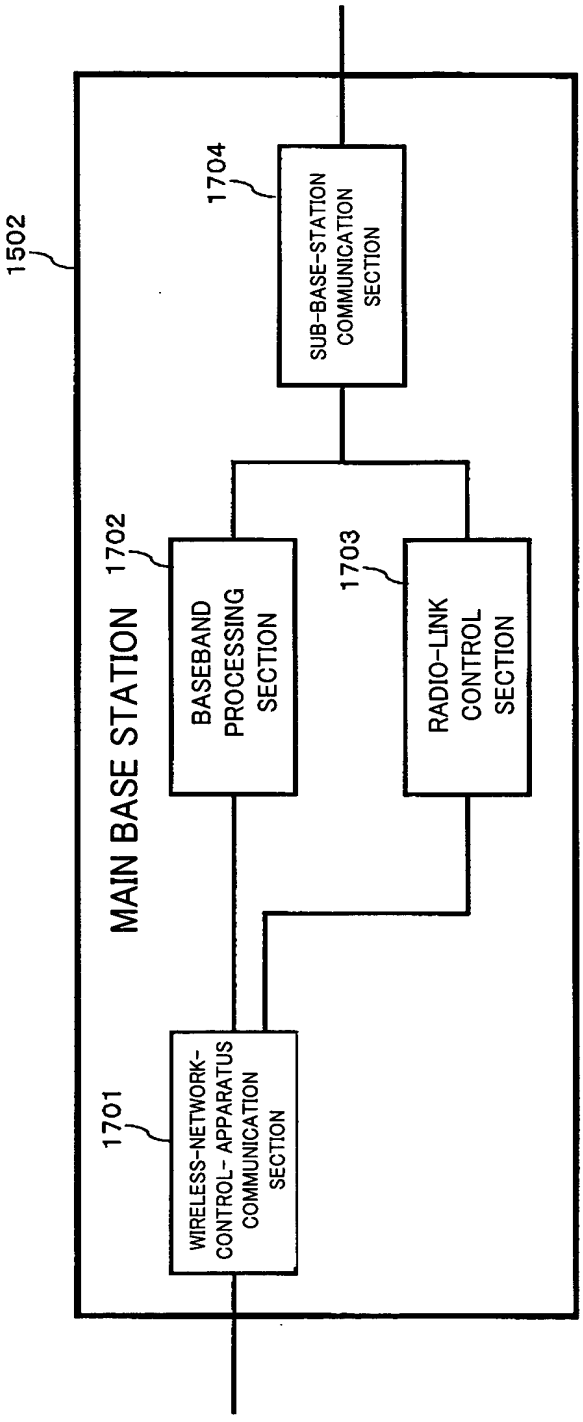
1502
MAIN BASE STATION
1704
SUB-BASE-STATION COMMUNICATION SECTION
1702
BASEBAND PROCESSING SECTION
1703
RADIO-LINK CONTROL SECTION
1701
WIRELESS-NETWORK-CONTROL-APPARATUS COMMUNICATION SECTION

FIG. 17

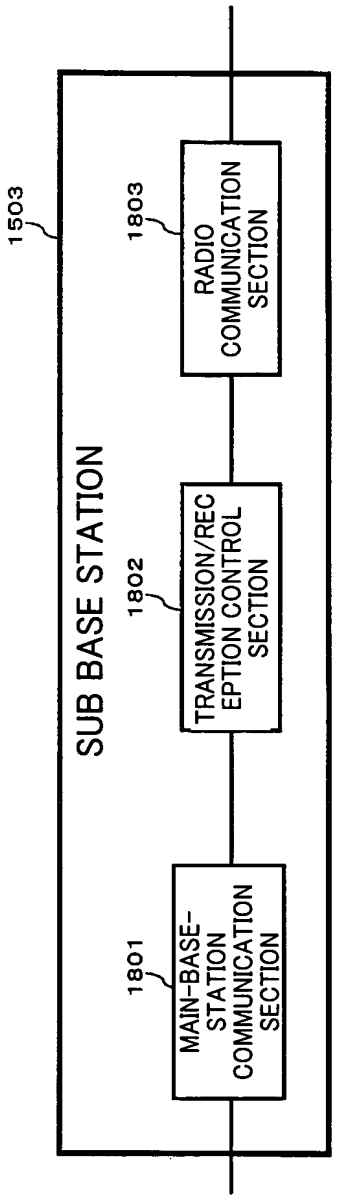

FIG. 18

1901

Active Set	
CELL ID IN PLMN	(a)

FIG. 19

2001

BASE STATION CORRESPONDENCE TABLE		
CELL ID IN PLMN	(a)	(b)
MAIN BASE STATION	FIRST MAIN BASE STATION	SECOND MAIN BASE STATION
CELL ID IN RAN	1	2

FIG. 20

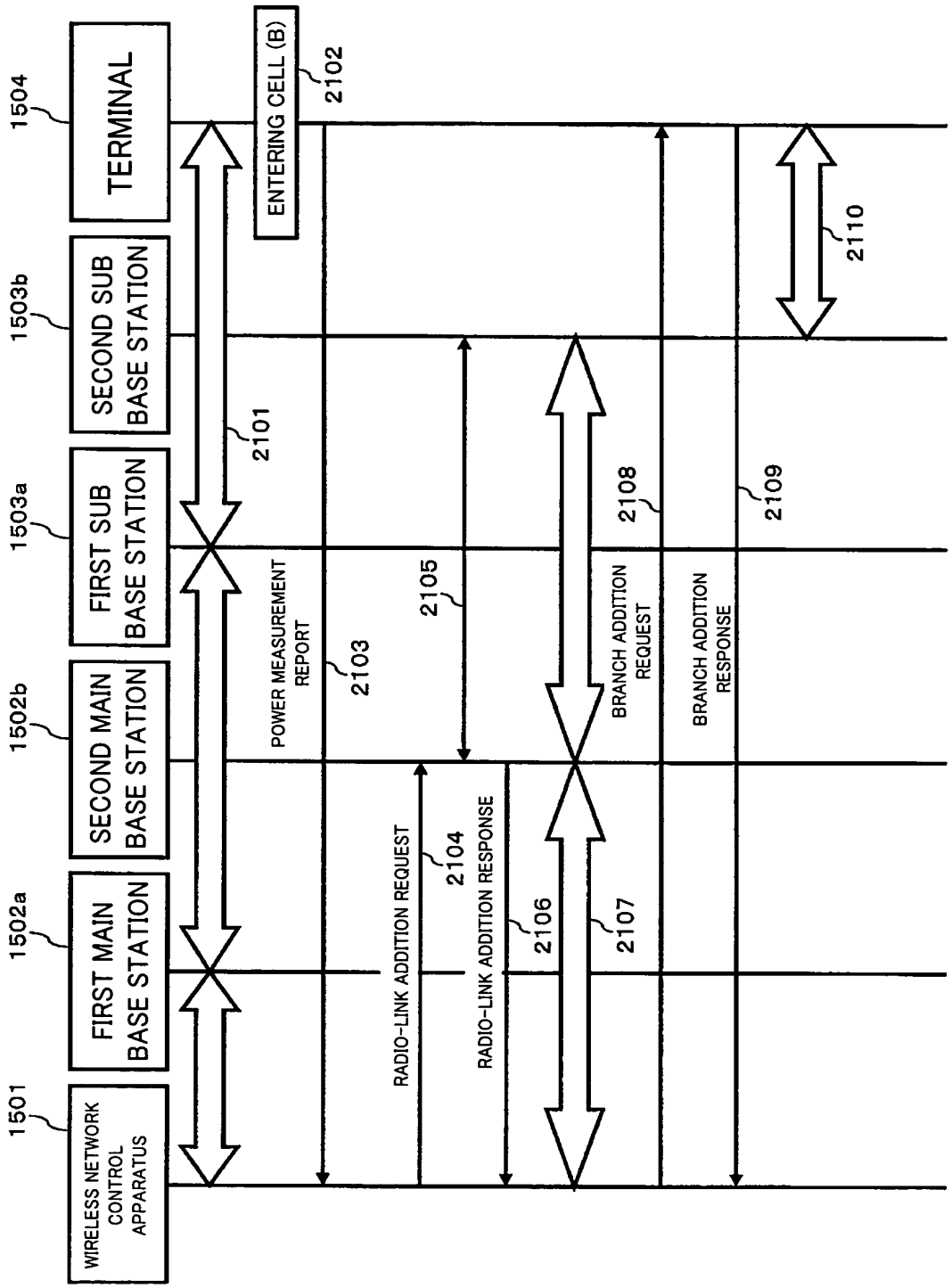
1501
WIRELESS NETWORK CONTROL APPARATUS
1502a
FIRST MAIN BASE STATION
1502b
SECOND MAIN BASE STATION
1503a
FIRST SUB BASE STATION
1503b
SECOND SUB BASE STATION
1504
TERMINAL
ENTERING CELL (B)
2102
2101
POWER MEASUREMENT REPORT
2103
RADIO-LINK ADDITION REQUEST
2104
RADIO-LINK ADDITION RESPONSE
2105
2106
2107
BRANCH ADDITION REQUEST
2108
BRANCH ADDITION RESPONSE
2109
2110

FIG. 21